

**REMARKS**

Claims 1-11 are pending after entry of this paper. Claims 1-11 have been rejected.

Claims 1 and 4-5 have been amended. No new matter has been introduced by these amendments. Reconsideration and withdrawal of the pending rejections in view of the above claim amendments and below remarks are respectfully requested.

**Objections**

Applicants have amended claims 4 and 5 to recite “g/L instead of “g/I” in accordance with the Examiner’s suggestion on page 2 of the Office Action. Applicants respectfully request withdrawal of the objection.

**Response to Rejections under 35 U.S.C. §112**

Claims 1-11 have been rejected under 35 U.S.C. §112, second paragraph for allegedly being indefinite. Specifically, the Examiner contends that the terms “atmospheric” and “atmospheric conditions” imply room temperature and pressure, while the instant specification and claim 6 recite temperatures that are higher than room temperature. The Examiner has examined the claims assuming that “atmospheric conditions” imply “atmospheric pressure.”

Applicants have amended claim 1 to positively recite “atmospheric pressure.” Applicants respectfully submit that amended claim 1, and thus claims 2-11 which depend therefrom, are in compliance with the requirements of 35 U.S.C. §112, second paragraph.

Response to Rejections under 35 U.S.C. §102

Claims 1-2, 4-5, 7, and 9-11 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,487,819 (“Everett”). The Examiner has specifically parsed out two steps recited in claim 1 (steps “a” and “b” on pages 3-4 of the Office Action), and contends that each element of each step is anticipated by Everett. Applicants respectfully disagree for the reasons set forth below.

The foreign counterpart of Everett (EP Patent No. 646185) is as described in the instant specification at page 2, lines 1-6 and lines 17-21. Specifically, Everett (U.S. Patent No. 5,487,819) discloses that the electrolyte that is used for leaching of sulfide mineral and gold includes two or more halides (forming a halide complex, “halex”), which increases the oxidation potential of the electrolyte and thus causes further leaching of one or more metals as it passes through the hop (i.e., high oxidation potential) zone (col. 2, lines 54-58 of Everett). Everett identifies  $\text{BrCl}_2^-$  as a commonly formed and preferred halide complex (col. 2, lines 59-63). Everett discloses that the hop zone comprises a halide complex leaching (i.e., hcl) zone, in which final leaching of the mineral takes place, and an aeration zone (col. 3, lines 25-35). The hcl zone has a very high oxidation potential (col. 10, lines 15-17), and the “halex compounds invoke the leaching...of difficult to leach gold” (col. 10, lines 20-23).

Step “a” in claim 1 as parsed by the Examiner recites the step of:

leaching the gold from the residue or intermediate product in an aqueous solutions of copper (II) chloride sodium chloride...with the aid of bivalent copper contained in said solution and oxygen-containing gas.

Everett does not disclose the leaching of gold with the aid of bivalent copper. As described above, the leaching of gold as described by Everett is accomplished in the hcl zone by means of halox compounds, not bivalent copper. Although Everett describes that cupric ion causes further leaching oxidation of the mineral (col. 10, line 23-25, and equation 15 at col. 14), Everett clearly and expressly teaches that the leaching of gold is accomplished by halox compounds (see equation 18 at col. 14). Furthermore, Everett does not disclose the feeding of an oxygen-containing gas to the hcl zone (i.e., the gold-leaching zone), but instead discloses the feeding of air (22) into the separate and distinct aeration zone (18) (see Figure 1 of Everett, and col. 6, lines 24-27 cited by the Examiner). Thus, applicants submit that Everett does not disclose each and every element of step “a” of claim 1.

Step “b” of claim 1 as parsed by the Examiner recites the step of:

keeping the oxidation-reduction potential of the suspension formed at a value below 650 mV and the pH at a value of 1-3, whereby the iron and sulphur remain mainly undissolved.

The Examiner points to col. 10, lines 40-61 of Everett in support of his contention that instant step “b” is anticipated. Applicants respectfully assert that col. 10, lines 40-61 relate to the process by which gold is recovered after it has been leached (i.e., the conditions in which gold is precipitated onto the surface of the activated carbon), and not to the process of leaching itself. Thus, the step in Everett of “keeping the Eh of the solution to below +600 mV (Ag/AgCl)” relates to the process of recovery of the dissolved gold (i.e., precipitation of gold), and not to the process of leaching the gold. Indeed, the oxidation potential during the gold leaching step as disclosed by Everett was approximately +700 mV (col. 16, lines 20-24). As demonstrated in the Results table of Example 4, gold leaching (in the amount of 1.5 ppm) occurred at an oxidation-reduction potential of 700 mV (Ag/AgCl), while no leaching of gold (0

ppm) occurred at an oxidation-reduction potentials below (i.e., 400, 420 and 450 mV). Thus, Everett does not disclose gold leaching below 650 mV as required by step “b” of claim 1. Furthermore, Example 4 also shows that the gold leaching process was unsuccessful (i.e., no gold is leached into solution) at pH’s greater than 0.8 (i.e., 1.3, 1.8 and 2.0), whereas the claimed pH is between 1 and 3. Thus, applicants respectfully submit that Everett does not disclose each and every element of step “b” of claim 1.

In summary, Everett neither discloses “leaching the gold...with the aid of bivalent copper...and oxygen-containing gas” [step “a” of claim 1] nor “keeping the oxidation-reduction potential...at a value below 650 mV and the pH at a value of 1-3” [step “b” of claim 1]. As such, applicants respectfully submit that claim 1 is not anticipated by Everett, and request reconsideration and withdrawal of the rejections under 35 U.S.C. §102(b).

#### Response to Rejections under 35 U.S.C. §103

Claims 3, 6, and 8 have been rejected under 35 U.S.C. §103(a) as being obvious over Everett alone. The Examiner specifically contends that the alleged overlap of the claimed ranges in claims 3 and 6 with those disclosed in Everett support a *prima facie* case of obviousness, and that the use of air as the oxygen-containing gas (claim 9) would have been *prima facie* obvious because air is an art-recognized equivalent.

Everett has been described *supra*.

Everett is deficient in multiple respects and does not disclose each and every element of claim 1 from which all other claims depend. As a result, applicants respectfully submit that there is no *prima facie* case of obviousness for claims 3, 6, and 9, because each and

every element of independent claim 1 is neither disclosed nor suggested in Everett. Thus, applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §103(a).

#### Dependent Claims

The applicants have not independently addressed all of the rejections of the dependent claims. The applicants submit that for at least similar reasons as to why independent claim 1 from which all of the dependent claims 2-11 depend is believed allowable as discussed *supra*, the dependent claims are also allowable. The applicants however, reserve the right to address any individual rejections of the dependent claims and present independent bases for allowance for the dependent claims should such be necessary or appropriate.

Thus, applicants respectfully submit that the invention as recited in the claims as presented herein is allowable over the art of record, and respectfully request that the respective rejections be withdrawn.

#### **CONCLUSION**

Based on the foregoing amendments and remarks, applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application. Favorable action by the Examiner is earnestly solicited.

**AUTHORIZATION**

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. **13-4500**, Order No. 4819-4722.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. **13-4500**, Order No. 4819-4722.

Respectfully submitted,  
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By: \_\_\_\_\_

  
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